

## 【Sequence Listing】

<110> CreaGene Inc.  
 <120> Method for Improving a Genetic Stability for the Insert in  
 Single-Stranded RNA Virus Recombinant Vectors  
 <130> CreaGene-1  
 <160> 22  
 <170> KopatentIn 1.71  
 <210> 1  
 <211> 300  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> SIV gag-100

<400> 1  
 agcccgagaa cattaaatgc ctgggtaaaa ttgatagagg aaaagaaatt tggagcagaa 60  
 gtagtgccag gatttcaggc actgtcagaa ggttgcaccc cctatgacat taatcagatg 120  
 ttaaattgtg tgggagacca tcaagcggct atgcagatta tcagagatat tataaacgag 180  
 gaggctgcag attgggactt gcagcaccca caaccagctc cacaacaagg acaacttagg 240  
 gagccgtcag gatcagatat tgcaggaaca actagttcag tagatgaaca aatccagtgg 300  
 300

<210> 2  
 <211> 342  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> SIV gag-114

<400> 2  
 ccagtacaac aataggtgg taactatgtc cacctgcat taagcccgag aacattaaat 60  
 gcctgggtaa aattgataga ggaaaagaaa ttggagcag aagtagtgcc aggatttcag 120  
 gcactgtcag aaggttgcac cccctatgac attaatcaga tgtaaattg tgtgggagac 180  
 catcaagcgg ctatgcagat tatcagagat attataaacg aggaggctgc agattgggac 240

ttgcagcacc cacaaccagc tccacaacaa ggacaactta gggagccgtc aggatcagat 300

attgcaggaa caactagttc agtagatgaa caaatccagt gg 342

<210> 3  
 <211> 501  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> SIV p27-167

<400> 3  
 ccagtacaac aaataggtgg taactatgtc caccigccat taagcccagag aacattaaat 60  
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 gcactgtcag aaggttgac cccctatgac attaatcaga tgttaaattg tgtgggagac 180  
 catcaagcgg ctatgcagat tatcagagat attataaacg aggaggctgc agattgggac 240  
 ttgcagcacc cacaaccagc tccacaacaa ggacaactta gggagccgtc aggatcagat 300  
 attgcaggaa caactagttc agtagatgaa caaatccagt ggatgtacag acaacagaac 360  
 cccataccag taggcaacat ttacaggaga tggatccaac tggggttgca aaaatgtgc 420  
 agaatgtata acccaacaaa cattctagat gtaaaacaag ggccaaaaga gccatttcag 480  
 agctatgtag acaggttcta c 501

<210> 4  
 <211> 450  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> SIV p27-150

<400> 4  
 ccagtacaac aaataggtgg taactatgtc caccigccat taagcccagag aacattaaat 60  
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 gcactgtcag aaggttgac cccctatgac attaatcaga tgttaaattg tgtgggagac 180  
 catcaagcgg ctatgcagat tatcagagat attataaacg aggaggctgc agattgggac 240  
 ttgcagcacc cacaaccagc tccacaacaa ggacaactta gggagccgtc aggatcagat 300

attgcaggaa caactagttc agtagatgaa caaatccagt ggatgtacag acaacagaac 360  
 cccataccag taggcaacat ttacaggaga tggatccaac tggggttgca aaaatgtgtc 420  
 agaatgtata acccaacaaa cattctagat 450

<210> 5  
 <211> 324  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> SIV env-108

<400> 5  
 acttctactt ggtttggctt taatggaact agagcagaaa atagaactta tatttactgg 60  
 catggtaggg ataataggac tataattagt ttaaataagt attataatct aacaatgaaa 120  
 tgtagaagac caggaaataa gacagtttta ccagtcacca ttatgtctgg attggttttc 180  
 cactcacaac caatcaatga taggccaaag caggcatggt gttggtttgg aggaaaatgg 240  
 aaggatgcaa taaaagaggt gaagcagacc atgtcaaac atcccaggta tactggaact 300  
 aacaatactg ataaaatcaa ttig 324

<210> 6  
 <211> 294  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> HIV-1 env-98

<400> 6  
 ttaaatggca gtctagcaga agaagacata gtaattagat ctgaaaattt cacagacaat 60  
 gctaaaacca taatagtaca gctaaatgaa tctgtagtaa ttaattgtac aagacccaac 120  
 aacaatacaa gaagaagggt atctatagga ccaggagag cattttatgc aagaagaac 180  
 ataataggag atataagaca agcacattgt aacattagta gagcaaatg gaataacact 240  
 ttacaacaga tagttataaa attaagagaa aaatttagga ataaaacaat agcc 294

<210> 7  
 <211> 249  
 <212> DNA

<213> Artificial Sequence

<220>

<223> HIV-1 env-83

<400> 7

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ttaaattggca gtctagcaga agaagacata gtaattagat ctgaaaattt cacagacaat      60
gctaaaacca taatagtaca gctaaatgaa tctgtagtaa ttaattgtac aagacccaac      120
aacaatacaa gaagaagggtt atctatagga ccaggagag cattttatgc aagaagaaac      180
ataataggag atataagaca agcacattgt aacattagta gagcaaaatg gaataacact      240
ttacaacag                                     249

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<210> 8

<211> 213

<212> DNA

<213> Artificial Sequence

<220>

<223> HIV-1 env-71

<400> 8

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ctaaatgaat ctgtagtaat taattgtaca agacccaaca acaatacaag aagaaggtta      60
tctataggac caggagagc attttatgca agaagaaaca taataggaga tataagacaa      120
gcacattgta acattagtag agcaaaatgg aataacactt tacaacagat agttataaaa      180
ttaagagaaa aatttaggaa taaaacaata gcc                                     213

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<210> 9

<211> 294

<212> DNA

<213> Artificial Sequence

<220>

<223> HIV-1 env-98/M

<400> 9

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ttaaattggca gtctagcaga agaagacata gtaattagat ctgaaaattt cacagacaat      60
gctaaaacca taatagtaca gctaaatgaa tctgtagtaa ttaattgtac aagaccgaac      120
aacaatacaa gaagaagggtt atctatagga ccaggagag cattttatgc aagaagaaac      180
ataataggag atataagaca agcacattgt aacattagta gagcaaaatg gaataacact      240

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ttacaacaga tcgtgatcaa gcttcgggag aagttccgga acaagacgat cgcc 294

<210> 10  
 <211> 381  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PV 2-127

<400> 10  
 gcgctgacag ccgtagagac agggggccacc aaccattgg tgccttcaga cacggtacaa 60  
 actcgtcag tcattcaaaa ggggacgagg tcggagtcta cggttgagtc tttcttcgca 120  
 agaggagcct gtgtggccat tattgaagtg gataatgatg ctccaacaag gcgtgccagt 180  
 aaattatttt cagtcaggaa gataacttac aaggacaccg ttcagttaag acgtaagttg 240  
 gatttcttta catattcaag gtttgacatg gagttcacct ttgtggttac atccaattat 300  
 accgatgcaa acaatgggca cgcactgaat caagtttacc agataatgta cataccacct 360  
 ggggcaccga tccctggcaa g 381

<210> 11  
 <211> 354  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PV 2-118

<400> 11  
 gcttggtgg ccattattga agtggataat gatgctcaa caaggcgtgc cagtaaatta 60  
 ttttcagtct ggaagataac ttacaaggac accgttcagt taagacgtaa gttggagttc 120  
 tttacatatt caaggtttga catggagttc acctttgtgg ttacatcaa ttataccgat 180  
 gcaacaatg ggcacgcact gaatcaagtt taccagataa tgtacatacc acctggggca 240  
 ccgatccctg gcaagcggaa tgattacaca tggcaaacgt catctaacc atcagtgttt 300  
 tacacttacg gggcacctcc agctagaata tcagtgcctt acgtgggcat tgcc 354

<210> 12  
 <211> 330

<212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PV 3-110

<400> 12  
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 gcgtgcgtcg ctattattga ggtggacaat gaacaaccaa ccaccggggc acagaaacta 120  
 ttgtccatgt ggcgcatcac atacaagat acagtgcagt tgcgccgtaa gttggagttt 180  
 ttcacatact ctctgtttga catggaattc accttcgtgg taaccgcaa cttcaccaac 240  
 gctaataatg ggcatgcact caaccagggtg taccagataa tgtacatccc cccaggggca 300  
 cccacaccaa agtcatggga cgactacact 330

<210> 13  
 <211> 480  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> HCV core-160

<400> 13  
 atgagcacia atcctaaacc tcaaagaaaa accaaaagaa acaccaaccg tcgcccacia 60  
 gacgtcaagt tcccgggcgg tggtcagatc gttggtggag ttacctgtt gccgcgcagg 120  
 ggccccaggt tgggtgtgcg cgcgactagg aagacttccg agcggtcgca acctcgtgga 180  
 aggcgacagc ctatcccaa ggctcgccaa cccgagggtg ggacctgggc tcagccccgg 240  
 tacccttggc ccctctatgg caatgagggt ctgggatggg caggatggct cctgtcacc 300  
 cgcggtcttc ggctagtgtg gggccccaca gacccccggc gtaggtcgcg taatttgggt 360  
 aaggtcatcg atactctcac atgcggttc gccgacctca tgggtacat tccgtcgtc 420  
 ggcgcccccc tagggggcgt tgccagggcc ttggcacatg gtgtccggct tctggaggac 480  
 480

<210> 14  
 <211> 300  
 <212> DNA  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; HCV core-100

&lt;400&gt; 14

atgagcacia atcctaaacc tcaaagaaaa accaaaagaa acaccaaccg tcgcccacia 60  
gacgtcaagt tcccgggagg tggtcagatc gttgggtggag tttacctgtt gccgcgcagg 120  
ggccccaggt tgggtgtgcg cgcgactagg aagacttccg agcggtegca acctcgtgga 180  
aggcgacagc ctatcccaa ggctcgccaa cccgagggta ggacctgggc tcagcccggg 240  
tacccttggc ccctctatgg caatgagggt ctgggatggg caggatggct cctgtcacc 300  
300

&lt;210&gt; 15

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PV 2.3-131

&lt;400&gt; 15

gcgtgacag ccgtagagac agggggccacc aaccattgg tgccttcaga cacggtacia 60  
actcgtcag tcatacaaaa gcggacgcgg tcggagtcta cggttgagtc tttcttcga 120  
agaggagctt gtgtggccat tattgaagtg gataatgatg ctccaacaag gcgtgccagt 180  
aaattatttt cagtctggaa gataactgaa ttcgagtcga caatagaatc attcttcga 240  
cgcggggcgt gcgtcgtat tattgaggtg gacaatgaac aaccaaccac ccgggcacag 300  
aaactatttg ccatgtggcg cattacatac aaagatacag tgcagttgcg ccgtaagttg 360  
gagtttttca catactctcg ttttgacatg gaattcacc 399

&lt;210&gt; 16

&lt;211&gt; 336

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PV 2.3-112

&lt;400&gt; 16

gcttgtgtgg ccattattga agtggataat gatgctccaa caaggcgtgc cagtaaatta 60  
 ttttcagtct ggaagataac ttacaaggac accgttcagt taagacgtaa gttaggagttc 120  
 ttacatatt caaggtttga catggagttc acctttgtgg ttacaggatc cgcgtgcgtc 180  
 gctattattg aggtggacaa tgaacaacca accacccggg cacagaaact atttgccatg 240  
 tggcgcatta catacaaaga tacagtgcag ttgcgccgta agttggagtt tttcacatac 300  
 tctcgttttg acatggaatt caccttcgtg gtaacc 336

<210> 17  
 <211> 306  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> HBV C.S

<400> 17  
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 tcttttgag tgtggattcg cactcctcct gcatatagac caccaaatgc ccctatctta 120  
 tcaacacttc cggaaactac tgttggttaga gaattcccag gatcatcaac caccagcacg 180  
 ggaccatgca agacttgca agctcctgct caaggaacct ctatgtttcc ctcatgttgc 240  
 tgtacaaaac ctacggacgg aaactgcacc tgtattccca tcccatcacc ttgggctttc 300  
 gcaaaa 306

<210> 18  
 <211> 360  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> HIV-1 mV3

<400> 18  
 attaatgtga caagacccaa caacaataga agaagaaggt tatctatagg accagggaga 60  
 gcattttatg caagaagaaa cataatagga gatataagac aagcacattg taacattgaa 120  
 ttcattaatt gtacaagacc caacaacaat acaagaagaa ggttatctat aggaccaggg 180  
 agagcatttt atgcaagaag aaacataata ggagatataa gacaagcaca ttgtaacatt 240



ctgcagatta attgtacaag acccaacaac aatacaagaa gaaggttatac tataggacca 300  
 gggagagcat tttatgcaag aagaaacata ataggagata taagacaagc acattgtaac 360  
 360

<210> 19  
 <211> 240  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> HIV-1 PND8

<400> 19  
 tctataggac caggagagc attttatgca tctataggac caggagagc attttatgca 60  
 tctataggac caggagagc attttatgca tctataggac caggagagc attttatgca 120  
 tctataggac caggagagc attttatgca tctataggac caggagagc attttatgca 180  
 tctataggac caggagagc attttatgca tctataggac caggagagc attttatgca 240  
 240

<210> 20  
 <211> 450  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> OPV-150

<400> 20  
 gctaaggccg ttgcagcctg gaccctgaaa gccgctgcag gccaaagcctc caccgaaggc 60  
 gactgcggtt gccagccat catcgaggtc gataacgatg ccctaccaa gcgagccagc 120  
 aagctcttca gcgaattcga ggtcgataat gaggagccca ctaccgagc ccagaagctc 180  
 ttgcctatgt ggcgtatcac ttacaaggac aatgatgcgc caactaagcg cgcattctaa 240  
 ctgtgcgtcc gaattctacat gaagcccaag cacgttcgat gtcgaggctg tcccgtatt 300  
 atcgaagtgg ataacgagc accaaccaaa cgggcatcaa agctggacaa ctaccagtc 360  
 ccatgcgcga tcaacgagca acctaccacc cgtgcgcaaa agtcgctgg gtgcttctat 420  
 cagacccgcg tcgtggttcc ctacagttgt 450

<210> 21  
 <211> 411  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> OPV-137

<400> 21  
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 actacccgag cccagaagct cttcgccatg tggcgatca cttacaagga caatgatgcg 180  
 ccaactaagc gcgcatctaa actgtgcgtc cgaatctaca tgaagccaa gcacgttcga 240  
 tgetccggt gtcccgtat tatcgaagt gataacgacg caccaaccaa acgggcatca 300  
 aagctggaca actaccagtc cccatgcgcg atcaacgagc aacctaccac ccgtgcgcaa 360  
 aagtcgctg ggtgttcta tcagaccgc gtcgtggtc cctcaggtg t 411

<210> 22  
 <211> 396  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> OPV-132

<400> 22  
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 gactcggtt gccagccat catcgaggtc gataatgagc agcccactac ccgagcccag 120  
 aagctcttcg ccatgtggcg taccattac aaggacaatg atgcgccaac taagcgcgca 180  
 tctaaactgt gcgtccgaat ctacatgaag cccaagcacg ttcgatgctc cggtgtccc 240  
 gctattatcg aagtggataa cgaagcacca accaaacggg catcaaagct ggacaactac 300  
 cagtccecat gcgcgatcaa cgagcaacct accaccgtg cgcaaaagtc cgctgggtgc 360  
 ttctatcaga cccgcgtcgt ggttcctca ggttgt 396